

**MULTI-BAND HORN ANTENNA USING CORRUGATIONS  
HAVING FREQUENCY SELECTIVE SURFACES**

**ABSTRACT OF THE INVENTION**

An antenna (100) for microwave radiation including a first horn (135) which includes a plurality of corrugations (150). At least one of the corrugations (150) is formed of a frequency selective surface (FSS) (138). The FSS has a plurality of FSS elements (305) coupled to at least one substrate (310). The substrate (310) can define a first propagation medium such that an RF signal having a first wavelength in the first propagation medium can pass through the FSS (300). The FSS (300) is coupled to a second propagation medium such that in the second propagation medium the RF signal has a second wavelength which is at least twice as long as a physical distance between centers of adjacent FSS elements (305).